

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Complete if Known

<b>Application Number</b>	10/644,703
<b>Filing Date</b>	Aug 19, 2003
<b>First Named Inventor</b>	Louis A. Pena
<b>Art Unit</b>	1647
<b>Examiner Name</b>	DANG, Ian D.

Sheet 1 of 4

Attorney Docket No: 30817-1008-CIP

**US PATENT DOCUMENTS**

Examiner Initial *	Cite No	Document Number	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
/I.D./		20010014662	Aug 16, 2001	Rueger, David C., et al.	
		20040038348	Feb 26, 2004	Pena, Louis A., et al.	
		20040151764	Aug 5, 2004	Zamora, Paul	
		20050196425	Sep 8, 2005	Zamora, Paul O.	
		20050222394	Oct 6, 2005	Zamora, Paul O., et al.	
		20060024347	Feb 2, 2006	Zamora, Paul O., et al.	
		20060199764	Sep 7, 2006	Zamora, Paul O., et al.	
		20060205652	Sep 14, 2006	Zamora, Paul et al.	
		20080063622	Mar 13, 2008	Zamora, Paul O., et al.	
		20080160169	Jul 3, 2008	Zamora, Paul O., et al.	
		20080166392	Jul 10, 2008	Zamora, Paul O., et al.	
		20080227696	Sep 18, 2008	Takahashi, Kazuyuki et al.	
		20090111743	Apr 30, 2009	Takahashi, Kazuyuki	
		20090143566	Jun 4, 2009	Zamora, Paul O., et al.	
		3272204	Sep 13, 1966	Artandi, Charles et al.	
		4193138	Mar 18, 1980	Okita, Koichi	
		4747848	May 31, 1988	Maini, Roshan	
		4842575	Jun 27, 1989	Hoffman, Jr., Harmon et al.	
		5108436	Apr 28, 1992	Chu, George H., et al.	
		5197977	Mar 30, 1993	Hoffman, Jr., Harmon et al.	
		5509899	Apr 23, 1996	Fan, You-Ling et al.	
		5510418	Apr 23, 1996	Rhee, Woonza M., et al.	
		5650234	Jul 22, 1997	Dolence, Eric K., et al.	
		5665114	Sep 9, 1997	Weadock, Kevin et al.	
		5679673	Oct 21, 1997	Bowen, Wayne et al.	
		6096798	Aug 1, 2000	Luthra, Ajay K., et al.	
		6099562	Aug 8, 2000	Ding, Ni et al.	
		6120904	Sep 19, 2000	Hostettler, Fritz et al.	
		6231600	May 15, 2001	Zhong, Sheng-ing	
		6231892	May 15, 2001	Hubbell, Jeffrey A., et al.	
		6248057	Jun 19, 2001	Mavity, William G., et al.	
		6258371	Jul 10, 2001	Koulik, Edouard et al.	
		6270788	Aug 7, 2001	Koulik, Edouard et al.	
		6306165	Oct 23, 2001	Patnaik, Birendra K., et al.	

EXAMINER

/Ian Dang/

DATE CONSIDERED

10/23/2009

Substitute Disclosure Statement Form (PTO 1449)

\* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. \* Applicant's unique citation designation number (optional). \* Applicant is to place a check mark here if (English language) Translation is attached.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT***Complete if Known*

<b>Application Number</b>	10/644,703
<b>Filing Date</b>	Aug 19, 2003
<b>First Named Inventor</b>	Louis A. Pena
<b>Art Unit</b>	1647
<b>Examiner Name</b>	DANG, Ian D.

(Use as many sheets as necessary)

Sheet

2

of

4

Attorney Docket No: 30817-1008-CIP

**US PATENT DOCUMENTS**

Examiner Initial *	Cite No	Document Number	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
/I.D./		6309660	Oct 30, 2001	Hsu, Li-Chien et al.	X
		6426332	Jul 30, 2002	Rueger, David C., et al.	
		6548634	Apr 15, 2003	Ballingner, Marcus et al.	
		6846853	Jan 25, 2005	Shimp, Lawrence A.	
		6863899	Mar 8, 2005	Koblish, Antony et al.	
		6949251	Sep 27, 2005	Dalal, Paresh S., et al.	
		7041641	May 9, 2006	Rueger, David C., et al.	
		7166574	Jan 23, 2007	Pena, Louis et al.	
		7414028	Aug 19, 2008	Zamora, Paul O., et al.	
		7468210	Dec 23, 2008	Zamora, Paul O.	
		7482427	Jan 27, 2009	Pena, Louis et al.	
		7528105	May 5, 2009	Pena, Louis A., et al.	

**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No	Foreign Patent Document	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>2</sup>
/I.D./		WO-WO0064481	Nov 2, 2000	Sakiyama, Shelly et al.	X	
/I.D./		WO-WO0210221	Feb 7, 2002	Zamora, Paul et al.		

**OTHER DOCUMENTS -- NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
/I.D./		BAIRD, ANDREW et al., "Receptor- and heparin-binding domains of basic fibroblast growth factor", <i>Proc. Natl. Acad. Sci.</i> , Vol. 85 04/1988 , 2324-2328	
		FEELEY, BRIAN et al., "Influence of BMP's on the Formation of Osteoblastic Lesions in Metastatic Prostate Cancer", <i>Journal of Bone and Mineral Research</i> , Vol. 20 No. 12 2005 , 2189-2199	
		HEALY, KEVIN et al., "Designing biomaterials to direct biological responses", <i>Ann N Y Acad Sci.</i> 875 1999 , 24-35	

EXAMINER

/Ian Dang/

DATE CONSIDERED

10/23/2009

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

Complete if Known

<b>Application Number</b>	10/644,703
<b>Filing Date</b>	Aug 19, 2003
<b>First Named Inventor</b>	Louis A. Pena
<b>Art Unit</b>	1647
<b>Examiner Name</b>	DANG, Ian D.

(Use as many sheets as necessary)

Sheet

3

of

4

Attorney Docket No: 30817-1008-CIP

**OTHER DOCUMENTS -- NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
/I.D./ ↓		KIRSCH, THOMAS et al., "BMP-2 Antagonists Emerge from Alterations in the Low-Affinity Binding Epitope for Receptor BMPRII", <u>EMBO Journal</u> , Vol. 19, No. 13 2000 , 3314-3324	
		KLOEN, P. et al., "BMP signaling components are expressed in human fracture callus", <u>Bone</u> 33 2003 , 362-371	
		KONISHI, SADAHIKO et al., "Hydroxyapatite Granule Graft Combined with Recombinant Human bone Morphogenetic Protein-2 for Solid Lumbar Fusion", <u>Journal of Spinal Disorders &amp; Techniques</u> , Vol. 15, No. 3 2002 , 237-244	
		LAREDO, JAMES et al., "Silyl-heparin bonding improves the patency and in vivo thromboresistance of carbon-coated polytetrafluoroethylene vascular grafts", <u>The Midwestern Vascular Surgical Society</u> 09/2003 , 1-7	
		LU, XINJIE et al., "Preferential antagonism of the interactions of the integrin alpha IIb beta 3 with immobilized glycoprotein ligands by snake-venom RGD (Arg-Gly-Asp) proteins", <u>Biochem J</u> 304 1994 , 929-936	
		MINAMIDE, AKIHITO et al., "Evaluation of Carriers of Bone Morphogenetic Protein for Spinal Fusion", <u>SPINE</u> Vol. 26, No. 8 2001 , 933-939	
		MURNAGHAN, MARK et al., "Time for treating bone fracture using rhBMP-2: A randomised placebo controlled mouse fracture trial", <u>Journal of Orthopaedic Research</u> 23 2005 , 625-631	
		NIKURA, T. et al., "Global Gene Profiling in Experimental Fracture Nonunions Reveals a Down Regulation of BMP Gene Expression", <u>52nd Annual Meeting of the Orthopaedic Research Society</u> , Paper No. 1673 2006	
		SAITO, ATSUSHIRO et al., "Activation of osteo-progenitor cells by a novel synthetic peptide derived from the bone morphogenetic protein-2 knuckle epitope", <u>Biochimica et Biophysica Acta</u> 1651 2003 , 60-67	
		SAITO, ATSUSHIRO et al., "Prolonged ectopic calcification induced by BMP-2-derived synthetic peptide", <u>www.interscience.wiley.com</u> 2004 , 1-7	
		SEOL, YANG-JO et al., "Enhanced osteogenic promotion around dental implants with synthetic binding motif mimicking bone morphogenetic protein (BMP)-2", <u>Journal of Biomedical Materials Research Part A</u> ; <u>www.interscience.wiley.com</u> 2005 , 1-8	
		SHEN, WEI-CHIANG et al., "Poly(l-lysine) has different membrane transport and drug-carrier properties when complexed with heparin", <u>Proc Natl Acad Sci USA</u> 12/1981 , 7589-93	

EXAMINER

/Ian Dang/

DATE CONSIDERED

10/23/2009

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT  (Use as many sheets as necessary)				Complete if Known	
				Application Number	10/644,703
				Filing Date	Aug 19, 2003
				First Named Inventor	Louis A. Pena
				Art Unit	1647
				Examiner Name	DANG, Ian D.
				Attorney Docket No: 30817-1008-CIP	
Sheet	4	of	4		

## OTHER DOCUMENTS -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
/I.D./		SMITH, TEMPLE F. et al., "The challenges of genome sequence annotation of "The devil is in the details", <u>Nature Biotechnology</u> , Volume 15 November 1997 , 1222-1223	
		TANAKA, H. et al., "Involvement of bone morphogenic protein-2 (BMP-2) in the pathological ossification process of the spinal ligament", <u>Rheumatology</u> 2001;40 05/09/2001 , 1163-1168	
		TONG, YEN et al., "Peptide surface modification of poly(tetrafluoroethylene-co-hexafluoropropylene) enhances its interaction with central nervous system neurons", <u>J Biomed Mater Res</u> 42 1998 , 85-95	
		TUNG, CHING-HSUAN et al., "Novel branching membrane translocational peptide as gene delivery vector", <u>Bioorg Med Chem</u> 10(11) 2002 , 3609-3614	
		VARKEY, MATHEW et al., "Growth factor delivery for bone tissue repair: an update", <u>Expert Opin. Drug Deliver.</u> (2004) 1(1) 2004 , 19-34	
		WELLS, JAMES A. , "Additivity of Mutational Effects in Proteins", <u>American Chemical Society, Vol. 29, No. 37</u> September 18, 1990 , 8509-8516	
		YANO, AKIRA et al., "RGD motif enhances immunogenicity and adjuvanticity of peptide antigens following intranasal immunization", <u>Vaccine</u> 22(2) 2003 , 237-243	
		ZAMORA, PAUL O. et al., "Local Delivery of Basic Fibroblast Growth Factor (bFGF) Using Adsorbed Silyl-heparin, Benzyl-bis(dimethylsilylmethyl)oxycarbamoyl-heparin", <u>Bioconjugate Chem.</u> 2002 08/20/2002 , 920-926	

EXAMINER

/Ian Dang/

DATE CONSIDERED

10/23/2009